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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/770,881

02/03/2004

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EXAMINER

HUSSAIN, TAUQIR

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/770,881	Applicant(s) ZHENG ET AL.	
	Examiner TAUQIR HUSSAIN	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/03/2004, 08/03/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to application filed on 02/03/2004. Claims 1-15 are pending in this application.

Information Disclosure Statement

The listing of references in the specification on page 11 is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d) (1) and MPEP § 608.01(o). Correction of the following is required:

3. In claim 7, applicant claims a stored program for which there is no support in the specification where this program is stored e.g. storage medium, CD, DVD etc. or this program is transmitted via hard wire line to be executed by a processor?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-15 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Takahashi ET al. (Pub. No.: US 2004/0218573 A1), hereinafter, "Takahashi" in view of Dommety (draft-ietf-mobileip-fast-mip-v6003.txt), hereinafter "Dommety".

5. As to claim 1, Takahashi discloses the invention substantially, including, when connecting a mobile router (MR) of a mobile network (MONET) to an access point (AP) of an access network (AN) that includes an Access Router (AR) (Takahashi, Fig.14, [0093], where disclosed is system with Access router-30, mobile anchor-50, access point 20 and MONET as 1S which is mobile communication network) sending a first neighbor advertisement from a mobile network node (MNN), the first neighbor advertisement comprising a care of address (CoA) and a link layer address (LLA) of the MNN within the MONET (Takahashi, [0061], disclosed is access node advertising part-16A, processing unit is mobile network node and care of address list creating part-16D, link layer address-16E of mobile network MN);

based on the first neighbor advertisement, constructing a first neighbor that associates the CoA with the LLA (Takahashi, [0061], where CoA and LLA are associated with respect to each other or CoA has a corresponding mapping to LLA of MN and storage device could be a cache);

sending a second neighbor advertisement from the MR to the AN on behalf of the MNN, the second neighbor advertisement comprising a mapping between the CoA of the MNN and a LLA of the MR (LLA_MR) (Takahashi, Fig.15 and Fig.16, [0099], where

list of data link layer address of AP1, AP2...APn can be interpret as first, second neighbor and so on); and

based on the second neighbor advertisement, constructing a second neighbor that associates the CoA with the LLA_MR (Takahashi, Fig.16, [0099], where searching for mapped address means these addresses are saved in cache or storage device).

Takahashi however is silent on disclosing, "cache in the AR or MR".

Dommety however, discloses, "cache in the MR" (Dommety, Page 23, lines 1-4, where neighboring cache is stored in router which carries the mapping of CoA to LLA).

Therefore, it would have been obvious to one ordinary skilled in the art to combine the teachings of Takahashi with the teachings of Dommety in order to process the addresses on the fly instead of searching various address from various stored locations.

6. As to claim 2, Takahashi and Christophe discloses the invention substantially as in parent claim1 above, including, in response to an arrival of a downlink packet at the AR having a CoA in a destination address field (Takahashi, [0007], where AR sends the advertisement to MN), checking the second neighbor cache using the CoA to obtain the associated LLA_MR of the MR (Takahashi, [0011], where detecting the default router on the basis of the data link layer address acquired with reference to the list of access nodes of existing neighboring links is checking the second neighbor cache mapped address between CoA and LLA);

transmitting the packet to the MR using the LLA_MR in a link layer destination address field (Takahashi, [0016], where message field appended to a binding update

message directed to the mobility control apparatus means sending the packet to default router of Mobile network having the binding update which is updating the acquired address (LLA_MR) from the access nodes existing in the neighborhood);

in response to the arrival of the packet at the MR, checking the first CoA in an IP layer destination address field to obtain the associated LLA of the MNN (Takahashi, Fig.16, step-A15 and A16, [0103] and [0104], where after migration of MN, access node address acquiring part acquires data link layer address of AR acquired by access node address acquiring part and sets AR of entry obtained by search, as default router/MR); and

transmitting the packet to the MNN using the obtained LLA in the link layer destination address field (Takahashi, Fig.16, step-A18, [0106], where path update registration requesting part transmits BU to register binding between PCoA with HoA Map which is the original address of the first advertisement network router).

Takahashi however does not explicitly disclose, "neighboring cache".

Dommetry however discloses, "neighboring cache" Dommetry, Page 23, lines 1-4).

Therefore, it would have been obvious to one ordinary skilled in the art to combine the teachings of Takahashi with the teachings of Dommetry in order to process the addresses on the fly instead of searching various address from various stored locations.

7. As to claims 3 and 4, carry similar limitation as claims 1 and 2, therefore are rejected under for same rationale and further Takahashi, Fig.15, shows the set of addresses in the access node list.

8. As to claim 5, carries similar limitation as claim 1 above and therefore, is rejected under for same rationale.

9. As to claim 6, carries similar limitations as claim 2 above and therefore, is rejected for under same rationale.

10. As to claim 7, Takahashi discloses the invention substantially, including, a mobile network (MONET) having a mobile router (MR) and at least one Mobile Network Node (MNN), said Monet being connectable via the MR to an access point (AP) of an access network (AN) that comprises an Access Router (AR) (Takahashi, Fig.14, [0093], where disclosed is system with Access router-30, mobile anchor-50, access point 20 and MONET as 1S which is mobile communication network) sending a first neighbor advertisement from a mobile network node (MNN) (Takahashi, Fig.16, [0099], access node advertising part 16A sends the BU to advertise MAP 50 of the network layer address and data link layer address of AR 30 and the data link layer address of AP 20 currently connected to MN 10), said system comprising data processors that operate in accordance with stored programs (Takahashi, Fig.2, step-16A-C, [0061], where disclosed is a processing unit and it is obvious that processor by itself will act idle and needs instructions or programming code to process otherwise), where a data processor of the MNN is responsive to the MR connecting to the AP to send a first neighbor advertisement that comprises a care of address (CoA) and a link layer address (LLA) of the MNN within the MONET (Takahashi, [0061], disclosed is access node advertising

part-16A, processing unit is mobile network node and care of address list creating part-16D, link layer address-16E of mobile network MN);

where a data processor of the MR, responsive to the first neighbor advertisement, constructs a first neighbor cache that associates the CoA with the LLA (Takahashi, Fig.16, step-A11, [0099], access node advertising part 16A sends the BU to advertise map 50 of the network layer address and data link layer address of AR 30 and the data link layer address of AP 20 currently connected to MN 10) and sends a second neighbor advertisement from the MR to the AN on behalf of the MNN, the second neighbor advertisement comprising a mapping between the CoA of the MNN and a LLA of the MR (LLA_MR) (Takahashi, Fig.16, A12, [0100], where At A12 the access node list requesting part 16B then transmits the ICMP Router Address Solicitation (FIG. 5) to MAP 50 through transceiver 12 to request advertisement of the access node list); and

where a data processor of the AR, responsive to the second neighbor advertisement, constructs a second CoA with the LLA_MR (Takahashi, Fig.16, step-A15, where CoA list is created corresponding the the subnet/neighborhood by acquiring data link layer address).

Takahashi however does not explicitly disclose, neighboring cache".

Dommetry however discloses, "neighboring cache" Dommetry, Page 23, lines 1-4).

Therefore, it would have been obvious to one ordinary skilled in the art to combine the teachings of Takahashi with the teachings of Dommetry in order to process the addresses on the fly instead of searching various address from various stored locations.

11. As to claim 8, has similar limitations as claim 2 above and therefore is rejected under for same rationale.

12. Claims 13 and 14 has similar limitations as claims 7 and 8, therefore are rejected under for same rationale.

13. As to claims 10 and 11 has similar limitations as claims 7 and 8 above, therefore are rejected for under same rationale.

14. As to claims 9, 12 and 15 Takahashi implicitly discloses, MR comprises a wireless devices (Takahashi, Fig.2, MN, Transceiver-12 is shown as wireless device, Abstract, where mobile node is configured in wireless environment and access routers or access points are wireless devices).

15. Claim 1, is rejected under 35 U.S.C 103(a) as being unpatentable over Takahashi and Dommety in view of Applicant Admitted Prior art, hereinafter "AAPA".

16. As to claims 9, 12 and 15, Takahashi and Dommety are silent on disclosing explicitly, MR comprising of wireless devices.

AAPA however, discloses, "MR comprising of wireless device" (AAPA, Fig1 prior art, MNN1, MNN2 and MNN3 are wireless devices).

Therefore it would have been obvious to one ordinary skilled in the art at the time the invention was made to combine the teachings of Takahashi and Dommety with the

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teachings of AAPA in order to provide a system to operate in different wireless network transparently and so required minimum configuration from wireless device users.

17. Claims 1 is rejected under 35 U.S.C 103(a) as being unpatentable over Applicant Admitted Prior art, hereinafter "AAPA" in view of Dommety.

18. As to claim 1, AAPA discloses, when connecting a mobile router (MR) of a mobile network (MONET) to an access point (AP) of an access network (AN) that includes an Access Router (AR), sending a first neighbor advertisement from a mobile network node (MNN), the first neighbor advertisement comprising a care of address (CoA) and a link layer address (LLA) of the MNN within the MONET (AAPA, Fig.1, MR-3, MNN1,2,3 AP6, AR5 and MONET1, [0007], where AP6 may exist between the MR3 and the AR5 to provide link layer connectivity between MR3 and the AR5);

based on the first neighbor advertisement, constructing the MR that associates the CoA with the LLA (AAPA, Fig.2, [0011, lines 1-3], where CoA is constructed using the network prefix advertised by serving AR-1);

sending a second neighbor advertisement from the MR to the AN on behalf of the MNN, the second neighbor advertisement comprising a mapping between the CoA of the MNN and a LLA of the MR (LLA_MR) (AAPA, Fig.2, [0011], where as MR3 changes its attachment point, it reconfigures its CoA using prefix of the new/second AR-2); and

based on the second neighbor advertisement, constructing the AR that associates the CoA with the LLA_MR (AAPA, Fig.2, [0011], where In addition to sending

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a BU with the new CoA to the HA_MR 8 to update the binding cache 9A, the MR 3 also sends a Prefix Scope Binding Update (PS BU) message to the HA_MR 8).

AAPA however is silent on disclosing explicitly, "neighboring cache".

Dommety however discloses, "neighboring cache" (Dommety, Page 23, lines 1-4, where neighboring cache is stored in router which carries the mapping of CoA to LLA).

Therefore, it would have been obvious to one ordinary skilled in the art to combine the teachings of AAPA with the teachings of Dommety in order to process the addresses on the fly instead of searching various address from various stored locations and making the communication transparent between different wireless devices having the end user of device not to go through new configuration while on the move.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAUQIR HUSSAIN whose telephone number is (571)270-1247. The examiner can normally be reached on 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571 272 3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. H./

Examiner, Art Unit 2152

/Bunjob Jaroenchonwanit/

Supervisory Patent Examiner, Art Unit 2152